



Sequence Listing 6277US.ST25  
SEQUENCE LISTING

<110> Universtiy of Utah Research Foundation  
Bessereau, Jean-Louis  
Jorgensen, Erik

<120> Method of Transposon-Mediated Mutagenesis in the Nematode  
Caenorhabditis Elegans

<130> 0274-6277.1US

<140> US 09/980,644  
<141> 2001-11-01

<150> PCT/US00/40091  
<151> 2000-06-01

<150> US 60/136,972  
<151> 1999-06-01

<160> 43

<170> PatentIn version 3.2

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<400> 13

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ggtgacgtgg agattacgtc cccgtaaaaa ttattgcaa atatgcaacg gtggccgaga 180  
aaatccgcga ccccgctcgac ccagacacgg ttgattctcc agtgacggtc gatcaacaaa 240  
aaagatccat ttttcatctc cagtaacgat acgatgcaaa aacgacttcc ttttgtatcg 300  
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<212> DNA  
<213> *Drosophila mauritiana*

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gaacaagtac caactgtgaa aacgtgtgaa cgggtggtttc aacgcttcaa aagtggatgat 180  
tttgacgtcg acgacaaaaga gcacggaaaa ccgcaaaaaa ggtacgaaga cgccgaactg 240  
caagcattat tggatgaaga cgatgctcaa acgcaaaaaac aactcgcaga gcagttggaa 300  
gtaagtcaac aagcagtttc caatcgcttg cgagagatgg gaaagattca gaaggtcggg 360  
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attttgcttt caccatacaa aaggaagtcg tttttgcatc gtatcgttac tggagatgaa 480  
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gccacatcga ctgctcgacc gaatcgcttt ggcaagaaga cgatgctctg tgtttggtgg 600  
gatcagagcg gtgtcattta ctatgagctc ttgaaacccg gcgaaacggg gaatacggca 660  
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caaaaaagac aacacagggt catttttctc catgacaacg ctccatcaca tacggcaaga 780  
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ccagacctgg ccccatccga ttaccaccta ttcgcttcga tgggacacgc actcgtgag 900  
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<210> 25

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<211> 345

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<213> *Drosophila mauritiana*

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Phe Cys Phe His Leu Lys Lys Thr Ala Ala Glu Ser His Arg Met Leu  
20 25 30

Val Glu Ala Phe Gly Glu Gln Val Pro Thr Val Lys Thr Cys Glu Arg  
35 40 45

Trp Phe Gln Arg Phe Lys Ser Gly Asp Phe Asp Val Asp Asp Lys Glu  
50 55 60

His Gly Lys Pro Pro Lys Arg Tyr Glu Asp Ala Glu Leu Gln Ala Leu  
65 70 75 80

Leu Asp Glu Asp Asp Ala Gln Thr Gln Lys Gln Leu Ala Glu Gln Leu  
85 90 95

Glu Val Ser Gln Gln Ala Val Ser Asn Arg Leu Arg Glu Met Gly Lys  
100 105 110

Ile Gln Lys Val Gly Arg Trp Val Pro His Glu Leu Asn Glu Arg Gln  
115 120 125

Met Glu Arg Arg Lys Asn Thr Cys Glu Ile Leu Leu Ser Arg Tyr Lys  
130 135 140

Arg Lys Ser Phe Leu His Arg Ile Val Thr Gly Asp Glu Lys Trp Ile  
145 150 155 160

Phe Phe Val Asn Pro Lys Arg Lys Lys Ser Tyr Val Asp Pro Gly Gln  
165 170 175

Pro Ala Thr Ser Thr Ala Arg Pro Asn Arg Phe Gly Lys Lys Thr Met  
180 185 190

Leu Cys Val Trp Trp Asp Gln Ser Gly Val Ile Tyr Tyr Glu Leu Leu  
195 200 205

Lys Pro Gly Glu Thr Val Asn Thr Ala Arg Tyr Gln Gln Gln Leu Ile

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210

215

220

Asn Leu Asn Arg Ala Leu Gln Arg Lys Arg Pro Glu Tyr Gln Lys Arg  
225 230 235 240

Gln His Arg Val Ile Phe Leu His Asp Asn Ala Pro Ser His Thr Ala  
245 250 255

Arg Ala Val Arg Asp Thr Leu Glu Thr Leu Asn Trp Glu Val Leu Pro  
260 265 270

His Ala Ala Tyr Ser Pro Asp Leu Ala Pro Ser Asp Tyr His Leu Phe  
275 280 285

Ala Ser Met Gly His Ala Leu Ala Glu Gln Arg Phe Asp Ser Tyr Glu  
290 295 300

Ser Val Lys Lys Trp Leu Asp Glu Trp Phe Ala Ala Lys Asp Asp Glu  
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<211> 1326  
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ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca 180  
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gcgaacaagt accaactgtg aaaacgtgtg aacggtggtt tcaacgcttc aaaagtgggtg 360  
at tttagcgt cgacgacaaa gagcacggaa aaccgcaaaa aaggtacgaa gacgccgaac 420  
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg 480



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aaattttgct ttcacgatac aaaaggaagt cgtttttgca tcgtatcggt actggagatg	660
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cacgctacca acaacaattg atcaatttga accgtgctgct tcagagaaaa cgaccggaat	900
atcaaaaaag acaacacagg gtcatttttc tccatgacaa cgctccatca catacggcaa	960
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caccagacct ggccccatcc gattaccacc tattcgcttc gatgggacac gcactcgctg	1080
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aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg	1200
tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaatttaacg	1260
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cttcag	1326

<210> 27  
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ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca	180
gtgcagtcaa catgtcgagt ttcgtgccga ataaagagca aacgcggaca gtattaattt	240
tctgttttca tttgaagaaa acagctgcgg aatcgcaccg aatgcttggt gaagcctttg	300
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atthtgacgt cgacgacaaa gagcacggaa aaccgcaaaa aaggtacgaa gacgccgaac	420
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg	480
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<210> 28  
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<220>  
 <223> oxTi3 insertion of Mos1 into C. Elegans genome

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ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca	180
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tctgttttca tttgaagaaa acagctgcgg aatcgcaccg aatgcttggt gaagcctttg	300
gcgaacaagt accaactgtg aaaacgtgtg aacggtgggt tcaacgcttc aaaagtgggtg	360
atTTTtgacgt cgacgacaaa gagcacggaa aaccgccaaa aaggtacgaa gacgccgaac	420
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aagtaagtca acaagcagtt tccaatcgct tgcgagagat gggaaagatt cagaaggtcg	540
gtagatgggt gccacatgag ttgaacgaga ggcagatgga gaggcgcaaa aacacatgcg	600
aaatTTTtGct tTcacgatac aaaaggaagt cgtTTTTtgca tcgtatcggt actggagatg	660

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aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg 1200
tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaattttaacg 1260
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<220>
<223> oxTi4 insertion of Mos1 into C. Elegans genome

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ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca 180
gtgcagtcaa catgtcgagt ttcgtgccga ataaagagca aacgcggaca gtattaattt 240
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attttgacgt cgacgacaaa gagcacggaa aaccgcaaaa aaggtagcaa gacgccgaac 420
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg 480
aagtaagtca acaagcagtt tccaatcgct tgcgagagat gggaaagatt cagaaggtcg 540
gtagatgggt gccacatgag ttgaacgaga ggacgatgga gaggcgcaaa aacacatgcg 600
aaattttgct ttcacgatac aaaaggaagt cgtttttgca tcgtatcggt actggagatg 660
aaaaatggat cttttttgtt aatcctaaac gtaaaaagtc atacgttgat cctggacaac 720

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atcaaaaaag acaacacagg gtcatttttc tccatgacaa cgctccatca catacggcaa	960
gagcggttcg cgacacgttg gaaacactca attgggaagt gcttccgcat gcggcttact	1020
caccagacct ggccccatcc gattaccacc tattcgcttc gatgggacac gcactcgctg	1080
agcagcgctt cgattcttac gaaagtgtga aaaaatggct cgatgaatgg ttcgccgcaa	1140
aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg	1200
tagctagcga cggcaaatac ttggaataaa tgattttttc tttttccaca aaattttaacg	1260
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ccttgc	1326

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<220>  
 <223> oxTi5 insertion of Mos1 into C. Elegans genome

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ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca	180
gtgcagtcaa catgtcgagt ttcgtgccga ataaagagca aacgcggaca gtattaattt	240
tctgttttca tttgaagaaa acagctgcgg aatcgcaccg aatgcttgtt gaagcctttg	300
gcgaacaagt accaactgtg aaaacgtgtg aacggtgggt tcaacgcttc aaaagtgggtg	360
attttgacgt cgacgacaaa gagcacggaa aaccgccaaa aaggtagcaa gacgccgaac	420
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg	480
aagtaagtca acaagcagtt tccaatcgct tgcgagagat gggaaagatt cagaaggctc	540
gtagatgggt gccacatgag ttgaacgaga ggcagatgga gaggcgcaaa aacacatgcg	600
aaattttgc ttcacgatac aaaaggaagt cgtttttgca tcgtatcggt actggagatg	660
aaaaatggat cttttttgtt aatcctaaac gtaaaaagtc atacgttgat cctggacaac	720
cggccacatc gactgctcga ccgaatcgct ttggcaagaa gacgatgctc tgtgtttggt	780
gggatcagag cgggtgtcatt tactatgagc tcttgaaacc cggcgaaacg gtgaatacgg	840

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gagcggttcg cgacacgttg gaaacactca attgggaagt gcttccgcat gcggcttact 1020
caccagacct ggccccatcc gattaccacc tattcgcttc gatgggacac gcactcgctg 1080
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tagctagcga cggcaaatac tttgaataaa tgattTTTTt tttttccaca aaatttaacg 1260
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<220>
<223> oxTi6 insertion of Mos1 into C. Elegans genome
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ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca 180
gtgcagtcaa catgtcgagt ttcgtgccga ataaagagca aacgcggaca gtattaattt 240
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gcgaacaagt accaactgtg aaaacgtgtg aacggtgggt tcaacgcttc aaaagtgggtg 360
atTTtgacgt cgacgacaaa gagcacggaa aaccgccaaa aaggtacgaa gacgccgaac 420
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg 480
aagtaagtca acaagcagtt tccaatcgct tgcgagagat gggaaagatt cagaaggtcg 540
gtagatgggt gccacatgag ttgaacgaga ggcatgga gaggcgcaaa aacacatgcg 600
aaatTTtgct ttcacgatac aaaaggaagt cgTTTTtgca tcgtatcggt actggagatg 660
aaaaatggat cTTTTttgtt aatcctaaac gtaaaaagtc atacgttgat cctggacaac 720
cggccacatc gactgctcga ccgaatcgct ttggcaagaa gacgatgctc tgtgtttggg 780
gggatcagag cgggtgtcatt tactatgagc tcttgaaacc cggcgaaacg gtgaatacgg 840
cacgctacca acaacaattg atcaatttga accgtgcgct tcagagaaaa cgaccggaat 900
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atcaaaaaag acaacacagg gtcatttttc tccatgacaa cgctccatca catacggcaa	960
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caccagacct ggccccatcc gattaccacc tattcgcttc gatgggacac gcactcgctg	1080
agcagcgctt cgattcttac gaaagtgtga aaaaatggct cgatgaatgg ttcgccgcaa	1140
aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg	1200
tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaatttaacg	1260
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agattt	1326

<210> 32  
 <211> 1326  
 <212> DNA  
 <213> Artificial

<220>  
 <223> oxTi8 insertion of Mos1 into C. Elegans genome

<400> 32	
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tgtctcgcaa acgtaaatat ttatcgattg tcataaaact ttgaccttgt gaagtgtcaa	120
ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca	180
gtgcagtcaa catgtcgagt ttctgtccga ataaagagca aacgcggaca gtattaattt	240
tctgttttca tttgaagaaa acagctgcgg aatcgcaccg aatgcttggt gaagcctttg	300
gcgaacaagt accaactgtg aaaacgtgtg aacggtggtt tcaacgcttc aaaagtgggtg	360
attttgacgt cgacgacaaa gagcacggaa aaccgccaaa aaggtacgaa gacgccgaac	420
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg	480
aagtaagtca acaagcagtt tccaatcgct tgcgagagat gggaaagatt cagaaggtcg	540
gtagatgggt gccacatgag ttgaacgaga ggcagatgga gaggcgcaaa aacacatgcg	600
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aaaaatggat cttttttgtt aatcctaaac gtaaaaagtc atacgttgat cctggacaac	720
cggccacatc gactgctcga ccgaatcgct ttggcaagaa gacgatgctc tgtgtttggt	780
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cacgctacca acaacaattg atcaatttga accgtgcgct tcagagaaaa cgaccggaat	900
atcaaaaaag acaacacagg gtcatttttc tccatgacaa cgctccatca catacggcaa	960
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# Sequence Listing 6277US.ST25

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caccagacct ggccccatcc gattaccacc tattcgcttc gatgggacac gcactcgctg 1080
agcagcgctt cgattcttac gaaagtgtga aaaaatggct cgatgaatgg ttcgccgcaa 1140
aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg 1200
tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaatttaacg 1260
tgttttttga tttaaaaaaa acgacatttc atacttgtac acctgataat tttcccgaact 1320
cttaca 1326
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<210> 33
<211> 1326
<212> DNA
<213> Artificial
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<220>
<223> oxTi9 insertion of Mos1 into C. Elegans genome
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<400> 33
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tgtctcgcaa acgtaaatat ttatcgattg tcataaaact ttgaccttgt gaagtgtcaa 120
ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca 180
gtgcagtcaa catgtcgagt ttctgtccga ataaagagca aacgcggaca gtattaattt 240
tctgttttca tttgaagaaa acagctgcgg aatcgaccgc aatgcttggt gaagcctttg 300
gcgaacaagt accaactgtg aaaacgtgtg aacggtgggt tcaacgcttc aaaagtgggtg 360
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tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg 480
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gtagatgggt gccacatgag ttgaacgaga ggcagatgga gaggcgcaaa aacacatgcg 600
aaatthtgct ttcacgatac aaaaggaagt cgtthtttgca tcgtatcggt actggagatg 660
aaaaatggat cthttttgtt aatcctaaac gtaaaaagtc atacgttgat cctggacaac 720
cggccacatc gactgctcga ccgaatcgct ttggcaagaa gacgatgctc tgtgttttgt 780
gggatcagag cgggtgtcatt tactatgagc tcttgaaacc cggcgaaacg gtgaatacgg 840
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atcaaaaaag acaacacagg gtcattthttc tccatgacaa cgctccatca catacggcaa 960
gagcgggttcg cgacacgttg gaaacactca attgggaagt gcttccgcat gcggcttact 1020
caccagacct ggccccatcc gattaccacc tattcgcttc gatgggacac gcactcgctg 1080
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Sequence Listing 6277US.ST25

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agcagcgctt cgattcttac gaaagtgtga aaaaatggct cgatgaatgg ttcgccgcaa 1140
aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg 1200
tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaatttaacg 1260
tgttttttga tttaaaaaaa acgacatttc atacttgtac acctgataaa tgtcatcaga 1320
attcat 1326

```

```

<210> 34
<211> 1326
<212> DNA
<213> Artificial

```

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<220>
<223> oxTill insertion of Mosl into C. Elegans genome

```

```

<400> 34
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tgtctcgcaa acgtaaatat ttatcgattg tcataaaact ttgacctgtg gaagtgtcaa 120
ccttgactgt cgaaccacca tagtttggcg cgaattgagc gtcataattg tttactctca 180
gtgcagtcaa catgtcgagt ttcgtgccga ataaagagca aacgcggaca gtattaattt 240
tctgttttca tttgaagaaa acagctgcgg aatcgaccgc aatgcttggt gaagcctttg 300
gcgaacaagt accaactgtg aaaacgtgtg aacggtgggt tcaacgcttc aaaagtgggtg 360
attttgacgt cgacgacaaa gagcacggaa aaccgccaaa aaggtagcaa gacgccgaac 420
tgcaagcatt attggatgaa gacgatgctc aaacgcaaaa acaactcgca gagcagttgg 480
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gtagatgggt gccacatgag ttgaacgaga ggcagatgga gaggcgcaaa aacacatgcg 600
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cggccacatc gactgctcga ccgaatcgct ttggcaagaa gacgatgctc tgtgtttggt 780
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agcagcgctt cgattcttac gaaagtgtga aaaaatggct cgatgaatgg ttcgccgcaa 1140
aagacgatga gttctactgg cgtggaatcc acaaattgcc cgagagatgg gaaaaatgtg 1200

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tagctagcga cggcaaatac tttgaataaa tgattttttc tttttccaca aaattttaacg 1260  
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 gtggca 1326

<210> 35  
 <211> 1322  
 <212> DNA  
 <213> Artificial

<220>  
 <223> oxTi4 insertion of Mos1

<400> 35  
 ctcttttcca gacgagtacc aggtgtacaa gtagggaatg tcggttcgaa catatagatg 60  
 tctcgcaaac gtaaataattt atcgattgtc ataaaacttt gaccttgtga agtgtcaacc 120  
 ttgactgtcg aaccaccata gtttggcgcg aattgagcgt cataattgtt tactctcagt 180  
 gcagtcaaca tgtcgagttt cgtgccgaat aaagagcaaa cgcggacagt attaattttc 240  
 tgttttcatt tgaagaaaac agctgcggaa tcgcaccgaa tgcttgttga agcctttggc 300  
 gaacaagtac caactgtgaa aacgtgtgaa cgggtggtttc aacgcttcaa aagtggatgat 360  
 tttgacgtcg acgacaaaaga gcacggaaaa ccgccaaaaa ggtacgaaga cgccgaactg 420  
 caagcattat tggatgaaga cgatgctcaa acgcaaaaac aactcgcaga gcagttggaa 480  
 gtaagtcaac aagcagtttc caatcgcttg cgagagatgg gaaagattca gaaggtcggg 540  
 agatgggtgc cacatgagtt gaacgagagg cagatggaga ggcgcaaaaa cacatgcgaa 600  
 attttgcttt cacgatacaa aaggaagtcg tttttgcac gtatcgttac tggagatgaa 660  
 aaatggatct tttttgttaa tcctaaacgt aaaaagtcac acgttgatcc tggacaaccg 720  
 gccacatcga ctgctcgacc gaatcgcttt ggcaagaaga cgatgctctg tgtttggtgg 780  
 gatcagagcg gtgtcattta ctatgagctc ttgaaacccg gcgaaacggt gaatacggca 840  
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 caaaaaagac aacacagggt catTTTTtctc catgacaacg ctccatcaca tacggcaaga 960  
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 ccagacctgg ccccatccga ttaccaccta ttcgcttcga tgggacacgc actcgctgag 1080  
 cagcgcttcg attcttacga aagtgtgaaa aaatggctcg atgaatgggt cgccgcaaaa 1140  
 gacgatgagt tctactggcg tggaatccac aaattgcccg agagatggga aaaatgtgta 1200  
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ttttttgatt taaaaaaaaac gacatttcat acttgtacac ctgatatac cttttgttcc 1320

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<210> 36  
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<212> DNA  
<213> Artificial

<220>  
<223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 36  
ctcttttcca gacgagtata tatccttttg ttcctt 36

<210> 37  
<211> 37  
<212> DNA  
<213> Artificial

<220>  
<223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 37  
ctcttttcca gacgagtaat atatcctttt gttcctt 37

<210> 38  
<211> 39  
<212> DNA  
<213> Artificial

<220>  
<223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 38  
ctcttttcca gacgagtatg atatatcctt ttgttcctt 39

<210> 39  
<211> 37  
<212> DNA  
<213> Artificial

<220>  
<223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 39  
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<210> 40  
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<220>

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<223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 40  
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<210> 41  
<211> 17  
<212> DNA  
<213> Artificial

<220>  
<223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 41  
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<210> 42  
<211> 18  
<212> DNA  
<213> Artificial

<220>  
<223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 42  
ctctttttcca gacgagta 18

<210> 43  
<211> 66  
<212> DNA  
<213> Artificial

<220>  
<223> lesion generated after removal of Mos1 in oxTi4 insertion

<400> 43  
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ttcctt 66